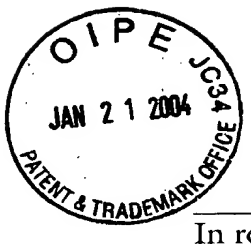
Image AF 2823



Docket No.: M4065.0356/P356
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Roger Lee

Confirmation No.: 2911

Application No.: 09/805,914

Art Unit: 2823

Filed: March 15, 2001

Examiner: F. Toledo

For: SELF-ALIGNED MRAM CONTACT AND METHOD OF FABRICATION

REQUEST FOR RECONSIDERATION AND INTERVIEW SUMMARY

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

REMARKS

Applicant's representatives wish to thank Examiner Fernando Toledo for his courtesy during the telephone interview conducted on January 16, 2004. During the interview, Applicant's representatives questioned the Office Action's reliance on U.S. Patent No. 6,555,858 to Jones et al ("Jones," hereinafter), and in particular, numerals "236" and "248" of this reference as cited in the Office Action, mailed December 15, 2003. Examiner Toledo agreed that the Office Action mislabeled one element and that it appeared the other element did not satisfy all of the claim limitations. Additional arguments presented at the interview are included in the arguments below.

Claims 1-42 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Jones. Reconsideration and withdrawal of the rejection are respectfully requested for at least the following reasons.

The present invention relates to a method of forming part of a magnetic random

access memory. Claim 1 recites a method comprising:

> Forming a first magnetic layer over a corresponding first conductive layer and forming a second magnetic layer over said first magnetic layer, said second magnetic layer *having an associated top conductive layer*; forming an insulating material over and in between said spaced apart magnetic memory element stacks; and *removing at least a portion of said insulating material over at least one of said memory element stacks to expose the top conductive layer* of said at least one memory element stack. (Emphasis Added)

Jones does not teach or suggest all claim limitations. The Office Action relies on Fig. 6 and the accompanying text of Jones as teaching the claimed invention. (Office Action, p. 2). First, as discussed during the telephonic interview, the Office Action mischaracterized numeral "236" of Jones as the claimed second magnetic layer. Jones discloses that, instead, "236" refers to a dielectric layer. (Col. 5, line 38). The Examiner determined, however, that the Office Action meant for numeral "238" to correspond to the claimed second magnetic layer.

Next, Applicant's representatives pointed out how the claimed top conductive layer differs from Jones's layer "248," relied on by the Office Action in rejecting claim 1. (Office Action, p. 2). The claimed method recites forming an insulating layer over the conductive layer and "removing at least a portion of said insulating material . . . to expose the top conductive layer." Unlike the claimed method, Jones teaches "portions of the etch stop layer and ILD layer (244) overlying magnetic memory elements are removed to define openings . . . . *Next, conductive layer(248) is deposited over the substrate surface and within the openings.*" (Col. 6, lines 20-24).

Thus, Jones fails to teach or suggest "removing at least a portion of said insulating material . . . to expose the top conductive layer," but rather, Jones teaches removing part of an ILD and etch stop layer to define an opening for subsequent deposition of a conductive layer. For at least this reason, Jones fails to anticipate claim 1,

and claim 1 should be allowed.

Claims 2-20 depend from claim 1 and contain every limitation of claim 1. Claims 2-20 should be allowable for at least these reasons and also for the unique combinations recited in these dependent claims that are neither taught nor suggested by Jones.

Claim 21 recites a method comprising:

> forming a second magnetic layer over said first magnetic layer, said second magnetic layer having an associated a top conductive layer; forming an insulating material over and in between said spaced apart magnetic memory element stacks; removing at least a portion of said insulating material to expose upper surfaces of a plurality of said memory element stacks; and forming a plurality of spaced apart second conductive layers over respective sets of said exposed upper surfaces, *said second conductive layers running substantially orthogonal to said first conductive layers, one of said first conductive layers being bit lines and the other of said first and second conductive layers being word lines.* (Emphasis added).

Jones does not teach or even suggest all of the claim limitations of claim 21. For at least the reasons given above for the allowance of claim 1, claim 21 should be allowed. Moreover, the italicized text above recites additional limitations that Jones does not teach or suggest. In fact, the Office Action was silent on these limitations, analyzing claim 21 as identical to claim 1. Accordingly, Jones does not anticipate the claimed invention, and withdrawal of the rejection is respectfully requested.

Claims 22-42 depend from claim 21 and contain every limitation of claim 21. Claims 22-42 should be allowed for at least these reasons and also for the unique combinations recited in these dependent claims that are neither taught nor suggested by Jones.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: January 21, 2004

Respectfully submitted,

By _____

Thomas J. D'Amico
Registration No.: 28,371
Megan M. Sunkel
Registration No.: 53,655
DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP
2101 L Street NW
Washington, DC 20037-1526
(202) 785-9700
Attorneys for Applicant